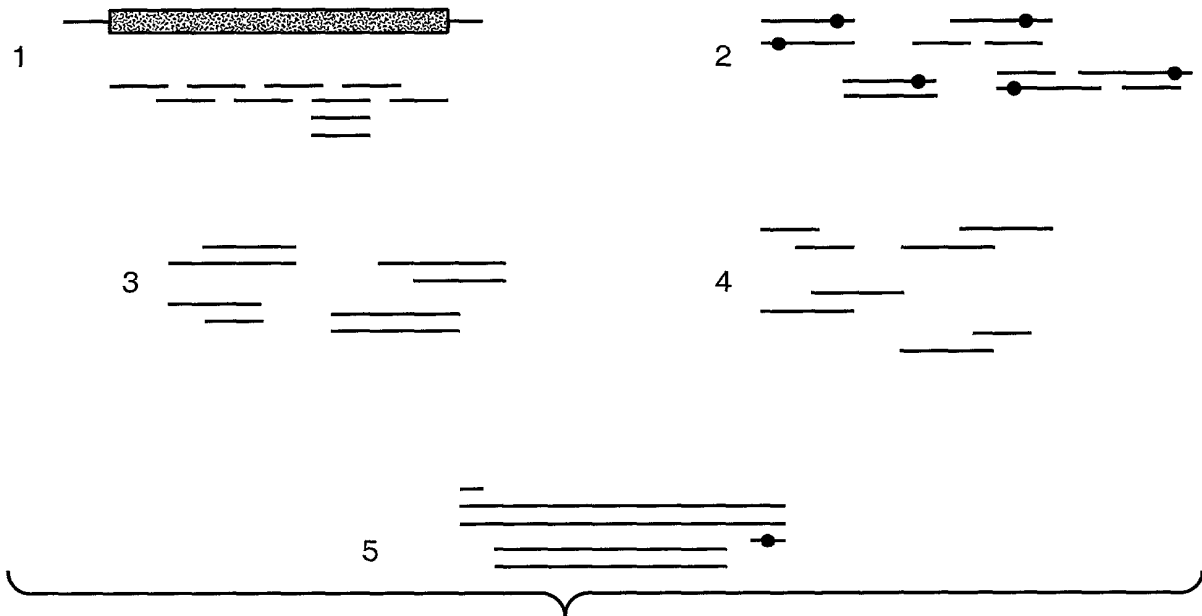
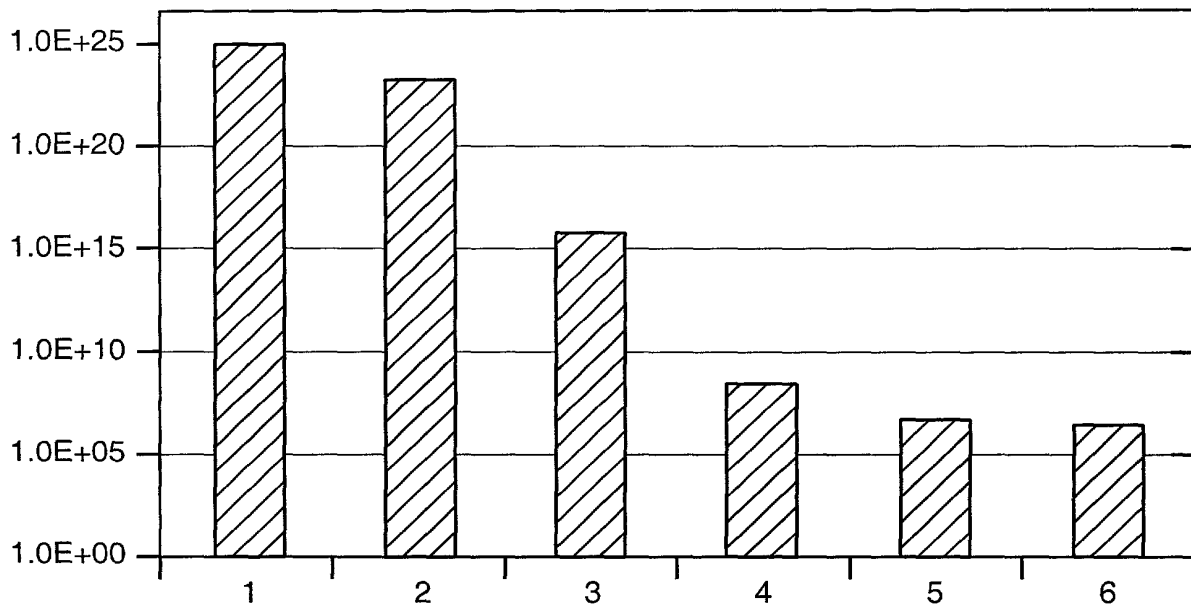
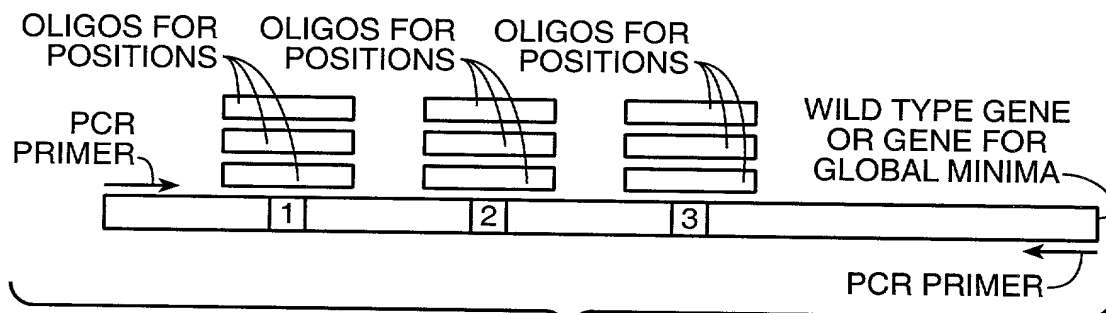


1 / 7

**FIG._1****FIG._2**

**FIG._3****FIG._5**

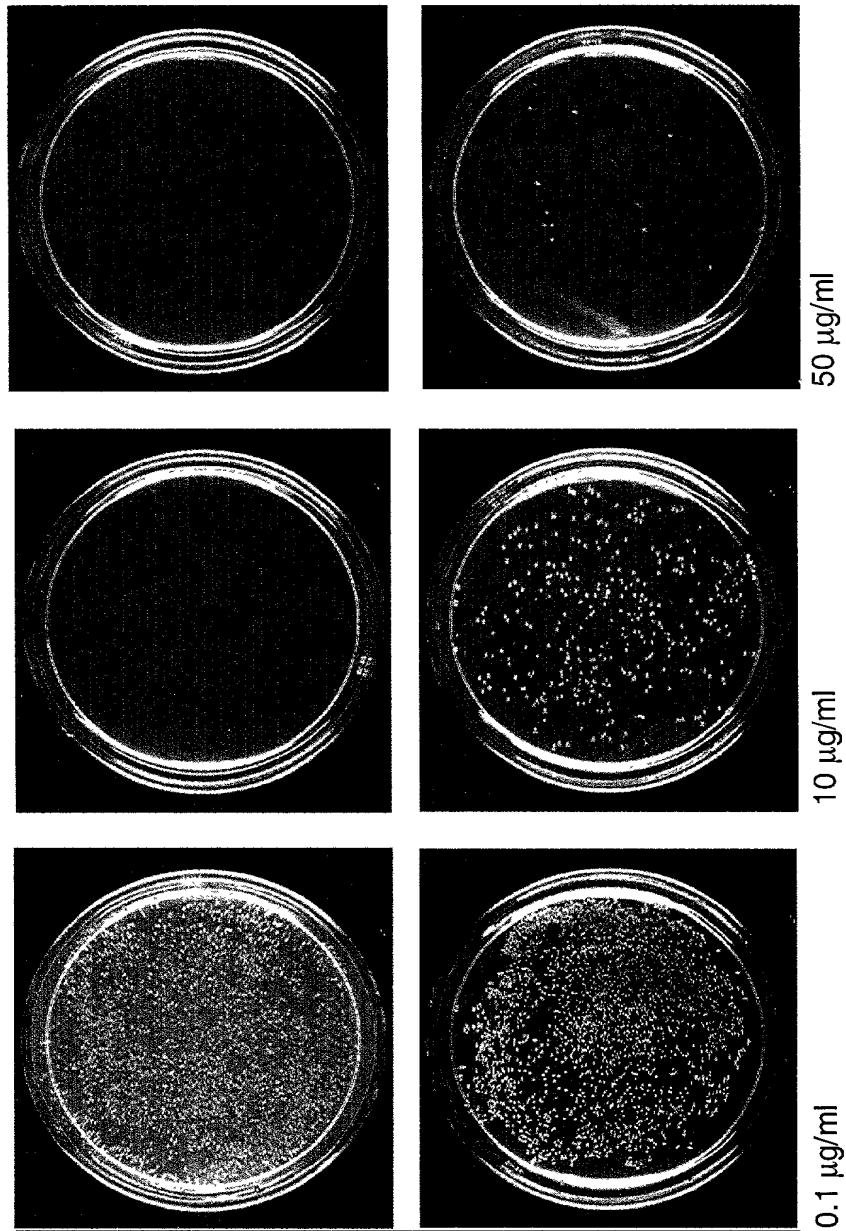
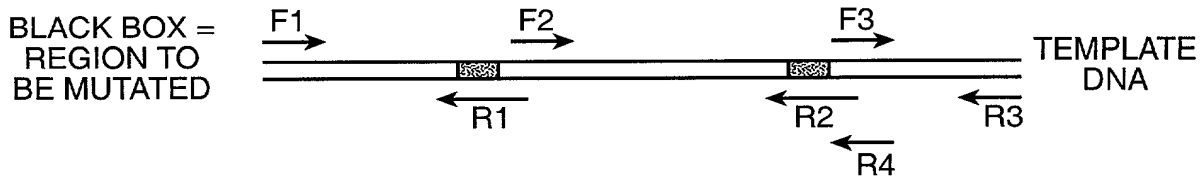


FIG._4

4 / 7



STEP 1: SET UP 3 PCR REACTIONS:

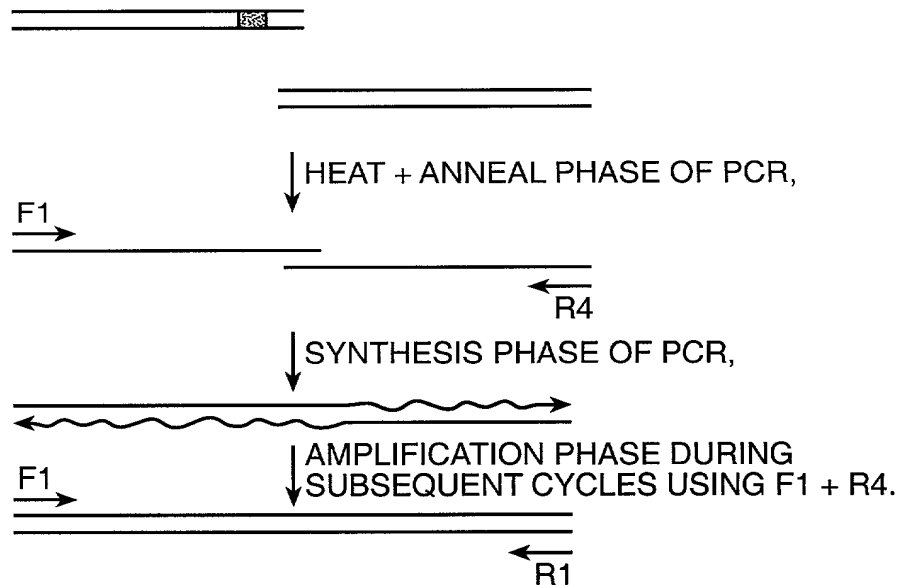
PRODUCTS:

TUBE 1:

TUBE 2:

TUBE 3:

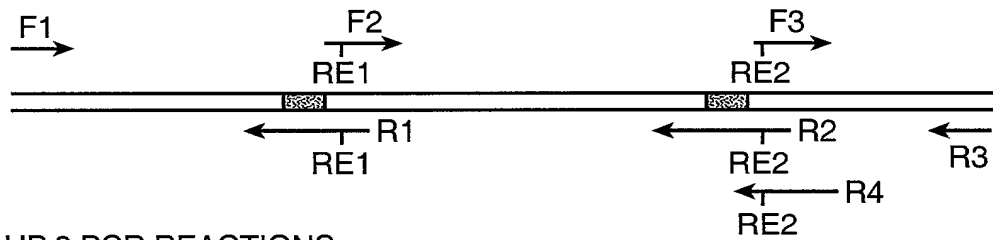
STEP 2: SET UP PCR REACTION WITH PRODUCTS OF TUBE 1 + PRODUCTS TUBE 2 + F1 + R4.



STEP 3: REPEAT STEP 2 USING PRODUCT FROM STEP 2 + PRODUCT FROM STEP 1, TUBE 3 + PRIMERS F1 + R3.

FIG._6

5 / 7



STEP 1: SET UP 3 PCR REACTIONS:

TUBE 1:
 A horizontal DNA template with a shaded box labeled RE1. A primer R1 is shown as an arrow pointing left from below the template.

TUBE 2:
 A horizontal DNA template with shaded boxes labeled RE1 and RE2. Primers R1 (pointing left) and R2 (pointing left) are shown below the template.

TUBE 3:
 A horizontal DNA template with a shaded box labeled RE2. A primer R2 is shown as an arrow pointing left from below the template.

STEP 2: DIGEST PRODUCTS FROM STEP 1 WITH SUITABLE RESTRICTION ENDONUCLEASES.

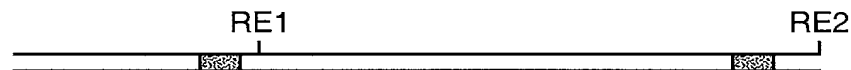
STEP 3: LIGATE DIGESTED PRODUCT FROM STEP 2, TUBE 2 WITH DIGESTED PRODUCT FROM STEP 2, TUBE 1.



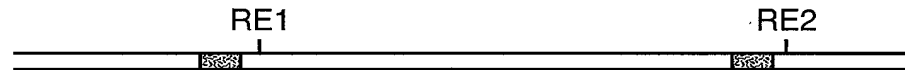
STEP 4: AMPLIFY VIA PCR LIGATED PRODUCTS OF STEP 3 WITH F1 + R4.



STEP 5: DIGEST AMPLIFIED PRODUCT OF STEP 4 WITH RESTRICTION ENDONUCLEASE #2.



STEP 6: LIGATE PRODUCT FROM STEP 5 WITH PRODUCT FROM STEP 2, TUBE 1.



STEP 7: AMPLIFY PRODUCT FROM STEP 6 WITH F1 + R3.

FIG. 7

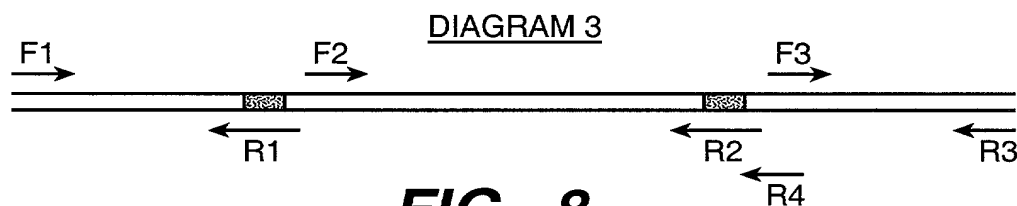


FIG. 8

6 / 7

Amplification Scheme Based on M13 Single Stranded Template

Amplification Scheme & Math

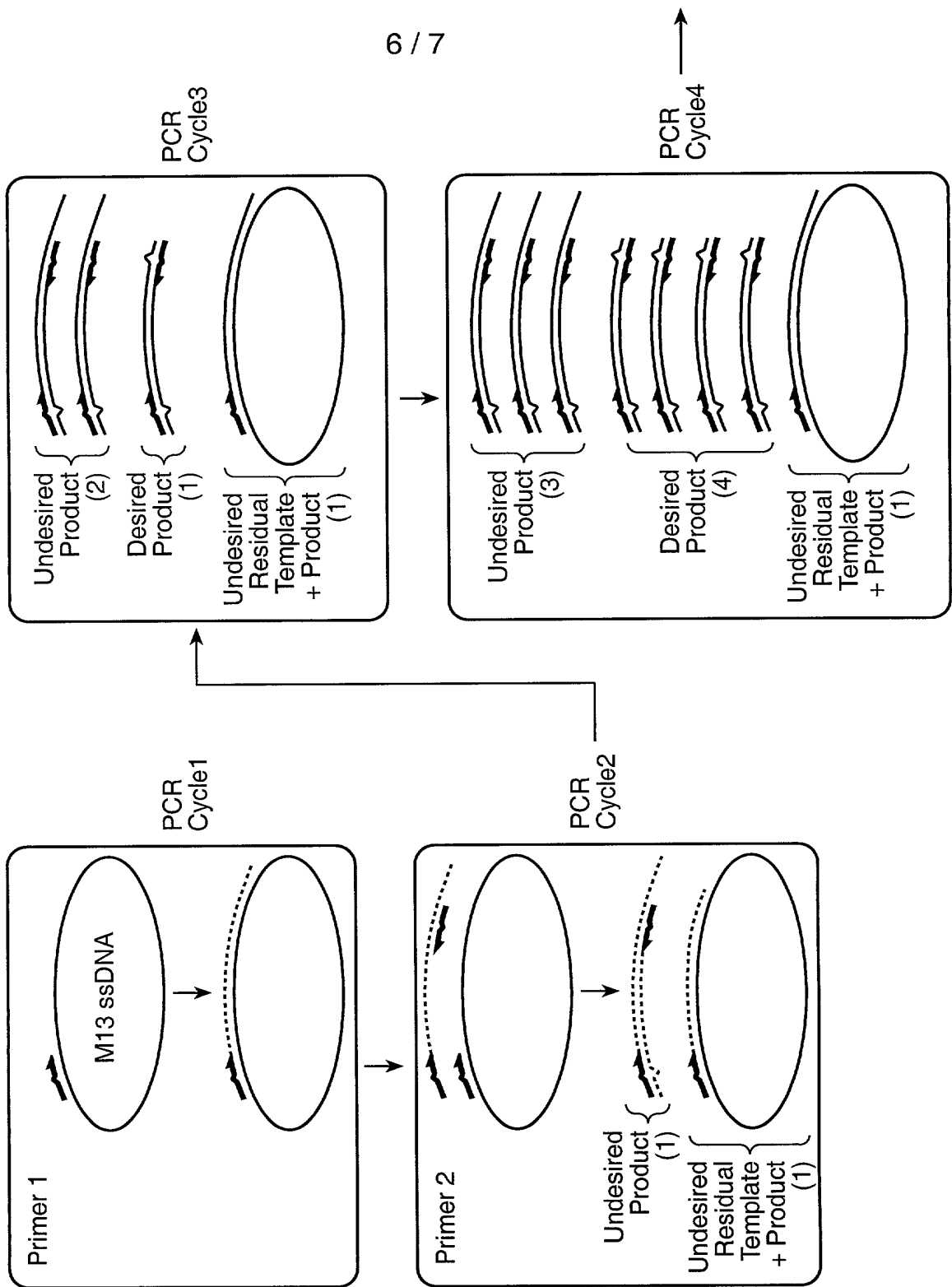


FIG. 9A

FIG. 9B**Amplification Scheme Based on M13 Single Stranded Template**Numerical Progression of Desired Product
with Increasing PCR Cycles

PCR Cycles	Desired Product	Undesired Products and Residual Template	Percent Desired Product in Total Product
1		1	
2	0	2	0.00%
3	1	3	25.00%
4	4	4	50.00%
5	11	5	68.75%
6	26	6	81.25%
7	57	7	89.06%
8	120	8	93.75%
9	247	9	96.48%
10	502	10	98.05%
11	1013	11	98.93%
12	2036	12	99.41%
13	4083	13	99.68%
14	8178	14	99.83%
15	16369	15	99.91%
16	32752	16	99.95%
17	65519	17	99.97%
18	131054	18	99.99%
19	262125	19	99.99%
20	524268	20	100.00%

